



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/899,383	07/03/2001	Scott A. Chalmers	02578.0006.CPUS01	3031
27194	7590	06/29/2005	EXAMINER	
HOWREY SIMON ARNOLD & WHITE, LLP c/o IP DOCKETING DEPARTMENT 2941 FAIRVIEW PARK DRIVE, SUITE 200 FALLS CHURCH, VA 22042-2924			PHAM, HOA Q	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/899,383

Applicant(s)

CHALMERS ET AL.

Examiner

Hoa Q. Pham

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 66,67,69,70,72,73,75,76,78,79,81-85 and 87-90 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 66,67,69,70,72,73,75,76,78,79,81-85 and 87-90 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. With respect to the amendment filed on 4/14/05, claims 66-67, 69-70, 72-73, 75-76, 78-79, 81-85, 87-90 are pending in this application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 66-67, 69-70, 72-73, 75-76, 78-79, 81-85, 87-90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muraoka et al (JP-411220004A) in view of Cabib et al (5,856,871) and Finland reference (*ImSpector* imaging Spectrograph brochure including specifications, **Spectral Imaging Ltd.**) (of record).

Regarding claims 66-67, 69-70, 72-73, 75-76, 78-79, 84-85, 87-88 and 89-90; Muraoka et al discloses a plurality of stations (10, 20, 30, 40, 50) involved in performing on or more aspects of the CVD process; a wafer transfer mechanism (60) disposed within the system (1) to transfer the wafer (9) between stations, a film thickness measuring section (70) for measuring the thickness of the wafer (see abstract and figures 1, 3, 4, and 5). Muraoka et al does not explicitly teach that the thickness measuring section is an imaging spectrometer for deriving a plurality of one-spatial-dimension spectral images. However, such a feature is known in the art as taught by Cabib et al and Finland reference. Cabib et al teaches that an imaging spectrometer or

Art Unit: 2877

spectral imager using for resource mapping of the earth surface from airplanes and satellites could be used for film thickness mapping (column 2 lines 8-23). Furthermore, Finland reference teaches that imaging spectrometer is a one-spatial-dimension imaging spectrometer (figure in page 1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the thickness measuring section of Muraoka et al by an imaging spectrometer or spectral imager taught by Cabib et al and Finland reference because Cabib teaches that the spectral imager can be used for resource mapping of the earth surface from airplanes and satellites could be used for the same purpose of film thickness mapping and Finland reference teaches the use of an imaging spectrometer.

Cabib et al teaches that the use of a one-dimensional array of detectors (36) and a scanner (32) for scanning the wafer (14) (column 5, lines 3-17) and does not explicitly teach that the imaging spectrometer disposed to detect reflected light from the wafer while the imaging spectrometer and the wafer undergo relative motion provided by the wafer transfer mechanism. However, it is well known in the art the scanner (32) can be replaced by a X-Y transfer mechanism so the wafer can be scanned. It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the scanner (32) of Cabib et al by moving the transfer mechanism of Muraoka et al because they both are used for the purpose of scanning the wafer. In other words, the spectral imager and the wafer undergo relative motion provided by the wafer transfer mechanism.

Regarding claim 81, Muraoka teaches an etching section (30) (see abstract).

Regarding claim 82, see figure 1 of Muraoka et al for loading and unloading sections (10,20).

Regarding claim 83, Cabib et al teaches the use of a continuous light source (10).

Response to Arguments

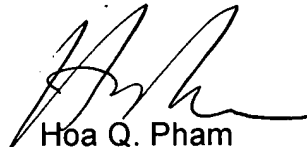
4. Applicant's arguments with respect to claims 66-67, 69-70, 72-73, 75-76, 78-79, 81-85, 87-90 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa Q. Pham whose telephone number is (571) 272-2426. The examiner can normally be reached on 7:30AM to 6 PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2877

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hoa Q. Pham
Primary Examiner
Art Unit 2877

HP
June 25, 2005